

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA

DIGITAL DREAM LABS, INC,

Plaintiff,

vs.

LIVING TECHNOLOGY (SHENZHEN)  
CO., LTD,

Defendant.

2:22-CV-00603-CCW

**MEMORANDUM OPINION**

Before the Court is Defendant Living Technology (Shenzhen) Co., Ltd.’s (d/b/a “Living.AI”) Motion to Dismiss Plaintiff Digital Dream Labs, Inc.’s (“DDL”) First Amended Complaint. ECF No. 23. For the reasons that follow, the Motion will be DENIED.

**I. Background**

This is a dispute between two competitors in the market for interactive desktop robots that now spans two cases and numerous amended pleadings and counter-pleadings. *See Digit. Dream Labs, Inc. v. Living Tech. (Shenzhen) Co.*, 20-CV-01500-CCW (“*DDL I*”). The competitors are DDL, which makes the robots VECTOR and COZMO, and Living.AI, which makes the robot EMO. In *DDL I*, DDL alleges, among other things, that Living.AI infringed upon DDL’s copyrights covering VECTOR and COZMO’s “faces”—screens that ordinarily display the robots’ eyes—as audiovisual works. *See generally DDL I*, ECF No. 27. Here, DDL alleges that it holds four copyrights covering the computer program and source code for VECTOR’s diagnostic menu screens, and that Living.AI has infringed upon those four copyrights by using VECTOR’s source code for EMO’s menu screens. ECF No. 22 ¶¶ 1, 18. As alleged by DDL, VECTOR was the first

(and until EMO, the only) desktop robot in the United States market “that enabled viewing of developer menus on the screen of the robot itself.” *Id.* ¶ 28.

The Court previously dismissed DDL’s infringement claim—its only cause of action here—because DDL failed to plausibly allege that Living.AI had access to VECTOR’s source code, such that it had failed to plead the “unauthorized copying” element of its infringement claim. ECF No. 21 at 3–6. DDL has now amended its complaint to bolster its allegations regarding access. *See generally* ECF No. 22. Living.AI, in turn, has moved to dismiss DDL’s Amended Complaint, arguing that DDL has again failed to plead access, and renewing an argument that the Court did not address previously: that DDL failed to plead a sufficient similarity between the works at issue to support its infringement claim. *See* ECF Nos. 23–24. With briefing completed, ECF Nos. 24–26, the Motion is ripe for adjudication.<sup>1</sup>

## II. Legal Standard

Living.AI’s motion to dismiss comes under Federal Rule of Civil Procedure 12(b)(6) and therefore challenges the legal sufficiency of DDL’s claim. In reviewing a motion to dismiss, the court accepts as true a complaint’s factual allegations and views them in the light most favorable to the plaintiff. *See Phillips v. Cnty. of Allegheny*, 515 F.3d 224, 228 (3d. Cir. 2008). Although a complaint need not contain detailed factual allegations to survive a motion to dismiss, it cannot rest on mere labels and conclusions. *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555 (2007). That is, “a formulaic recitation of the elements of a cause of action will not do.” *Id.* Accordingly, “[f]actual allegations must be enough to raise a right to relief above the speculative level,” *id.*, and be “sufficient . . . to ‘state a claim to relief that is plausible on its face,’” *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (quoting *Twombly*, 550 U.S. at 570). “The plausibility standard is not akin

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<sup>1</sup> This Court has federal question jurisdiction over DDL’s copyright claim under 28 U.S.C. § 1331.

to a ‘probability requirement,’ but it asks for more than the sheer possibility that a defendant has acted unlawfully.” *Id.* (quoting *Twombly*, 550 U.S. at 556).

The United States Court of Appeals for the Third Circuit has established a three-step process for district courts to follow in analyzing a Rule 12(b)(6) motion:

First, the court must “tak[e] note of the elements a plaintiff must plead to state a claim.” Second, the court should identify allegations that, “because they are no more than conclusions, are not entitled to the assumption of truth.” Finally, “where there are well-pleaded factual allegations, a court should assume their veracity and then determine whether they plausibly give rise to an entitlement for relief.”

*Burtch v. Milberg Factors, Inc.*, 662 F.3d 212, 221 (3d Cir. 2011) (quoting *Santiago v. Warminster Twp.*, 629 F.3d 121, 130 (3d Cir. 2010)). That said, under Rule 8’s notice pleading standard, even after the Supreme Court’s decisions in *Twombly* and *Iqbal*, a plaintiff need only “allege sufficient facts to raise a reasonable expectation that discovery will uncover proof of her claims.” *Connolly v. Lane Constr. Corp.*, 809 F.3d 780, 788–89 (3d Cir. 2016) (finding that “at least for purposes of pleading sufficiency, a complaint need not establish a *prima facie* case in order to survive a motion to dismiss”).

### **III. Discussion**

A claim for copyright infringement has two elements: “(1) ownership of a valid copyright; and (2) unauthorized copying of original elements of the plaintiff’s work.” *Tanksley v. Daniels*, 902 F.3d 165, 172–73 (3d Cir. 2018) (quoting *Dun & Bradstreet Software Servs., Inc. v. Grace Consulting, Inc.*, 307 F.3d 197, 206 (3d Cir. 2002)). At this stage, Living.AI does not challenge DDL’s ownership of copyrights covering the source code for VECTOR’s menu screens; rather, it challenges only the sufficiency of DDL’s allegations regarding “unauthorized copying.” *See generally* ECF No. 24.

To plead unauthorized copying, DDL must plausibly allege both “actual copying and material appropriation” of VECTOR’s source code. *Tanksley*, 902 F.3d at 173. Direct evidence of actual copying is rare, but DDL may satisfy its burden on this sub-element with a showing that Living.AI had “access” to VECTOR’s source code and a “probative similarity” between its source code and EMO’s. *Id.* Material appropriation exists where the protectible elements of the two works are “substantially similar.” *Id.* at 171–73. According to Living.AI, DDL has still failed to plausibly allege both access and substantial similarity, such that the Court has two independent grounds for dismissing DDL’s copyright infringement claim.

**A. DDL Has Plausibly Alleged Access to VECTOR’s Source Code**

A plaintiff pleads access by plausibly alleging that the defendant had a “reasonable opportunity to [observe] plaintiff’s work or a reasonable possibility to copy plaintiff’s work.” *Cottrill v. Spears*, No. CIV.A. 02-3646, 2003 WL 21223846, at \*5 (E.D. Pa. May 22, 2003), *aff’d*, 87 F. App’x 803 (3d Cir. 2004). DDL’s theory of access is that Living.AI obtained a VECTOR developer robot at a public auction and then used a “proprietary software key” to access the robot’s object code and reverse engineer that object code into source code for use in EMO. *See* ECF No. 22 ¶¶ 30–44. When this Court last considered DDL’s allegations, it concluded that DDL had plausibly alleged that Living.AI obtained a VECTOR developer robot but had failed to plausibly allege Living.AI’s possession of the proprietary key necessary to access its internal code. ECF No. 21 at 4–6. Although Living.AI renews its arguments that DDL has not plausibly alleged possession of the developer robot, the Court will not revisit its prior conclusion. Living.AI argues that DDL has nevertheless failed to plausibly allege access because its allegations regarding the proprietary key are speculative. ECF No. 24 at 12–13. The Court disagrees; DDL’s Amended Complaint plausibly alleges that Living.AI obtained the key and thus had access to VECTOR’s source code.

As alleged by DDL, developer robots provide greater file access than their commercial counterparts, such that someone with a unique “proprietary software key” could access the robot’s object code, which could then be reverse engineered into source code. ECF No. 22 ¶¶ 32, 38. By way of background, programmers generally write computer programs in “source code” using a particular coding language, which is then translated into a binary “object code” that the computer can read. *Whelan Assocs., Inc. v. Jaslow Dental Lab’y, Inc.*, 797 F.2d 1222, 1230–31 (3d Cir. 1986). DDL alleges that Living.AI has personnel capable of reverse engineering VECTOR’s object code into source code, an allegation that is plausible given the nature of Living.AI’s work as a robotics company. *See* ECF No. 22 ¶ 38. Thus, the key question is whether DDL has plausibly alleged that Living.AI obtained the proprietary key for its VECTOR developer robot.

In its Amended Complaint, DDL offers two plausible ways in which Living.AI would have obtained the key. First, DDL now explains that the key is embedded in each developer robot and can be accessed in the robot’s diagnostic logs “by any programmer or software developer with average skill and expertise.” *Id.* ¶ 40. DDL alleges that Living.AI, as a competitor in the market for interactive desktop robots, would have personnel capable of discovering and accessing the software key in this manner. *Id.* ¶ 39. Alternatively, DDL alleges that VECTOR’s previous seller released the software key and instructions for using the key in April 2019, such that Living.AI could also have accessed the key that way. *Id.* ¶ 43. While these facts do not conclusively establish Living.AI’s possession of a proprietary key, they go beyond speculation and make it plausible. That is all that is required of DDL at this stage.

DDL has therefore plausibly alleged that Living.AI had a reasonable opportunity to copy VECTOR’s source code by using a proprietary key to exploit the greater access afforded by a

developer robot in its possession. Accordingly, the Court will deny Living.AI's Motion insofar as it argues that DDL has failed to plausibly allege the sub-element of access to the copyrighted work.

**B. DDL Has Plausibly Alleged Substantial Similarity**

Substantial similarity "is usually an extremely close question of fact," but "courts will dismiss an infringement action if they conclude that no trier of fact could rationally determine the two works to be substantially similar." *Tanksley*, 902 F.3d at 171–72 (cleaned up). Computer programs can be substantially similar either in terms of their literal code or "their structure, sequence, and organization." *Whelan*, 797 F.2d at 1248. DDL points to similarities in VECTOR's and EMO's menu screens, arguing that they raise the plausible inference of substantial similarity in the underlying code. *See* ECF No. 22 ¶ 50. Living.AI contends that DDL has failed to plausibly allege substantial similarity between the VECTOR's and EMO's menu screen source codes because: (1) DDL concedes that it has not compared VECTOR's source code to EMO's source code; (2) the robots' menu screens are demonstrably *not* similar; and (3) any similarities between the screens pertain to features that are not protectible under copyright law. ECF No. 24 at 5–12. The Court finds none of Living.AI's arguments persuasive.

First, for the purpose of *pleading* substantial similarity in the source code for VECTOR's and EMO's menu screens, DDL is not required to undertake and allege a code-to-code comparison. *See Gay v. Facebook, Inc.*, No. 16-cv-03013 NC, 2016 WL 10650825, at \*2 (N.D. Cal. Oct. 19, 2016) (denying motion to dismiss claim alleging infringement of copyrighted source code even though plaintiff conceded he had no access to the allegedly infringing code because the plaintiff "allege[d] that [defendant] had access to [plaintiff's] source code, and because the two works express the same general idea") (collecting cases). As demonstrated by DDL's pleadings, the source code for consumer products like the robots at issue here is often carefully guarded and it is

therefore unsurprising that DDL has not had the opportunity to compare VECTOR's source code to EMO's. *See generally* ECF No. 22. Thus, it is appropriate for DDL to rely on similarities between the two robots' menu screens—the visual manifestation of the source code at issue—to allege substantial similarity between the underlying source codes. *See Whelan*, 797 F.2d at 1244 (evidence of similarities between video outputs is probative of substantial similarity in underlying code); *Gay*, 2016 WL 10650825, at \*2.

Second, the Court concludes that the menu screens contain enough similarities to give rise to the plausible inference that the underlying source codes are substantially similar. As the Third Circuit recognized in *Whelan*, “insofar as everything that a computer does, including its screen outputs, is related to the program that operates it, there is necessarily a causal relationship between the program and the screen outputs.” 797 F.2d at 1244. It follows that similarities between screen outputs are attributable to similarities in the underlying code, while differences in those outputs are attributable to differences in the underlying code. *See id.* That is particularly so where the screen outputs reveal similarities in the program's “structures,” such as where a particular subroutine in the program displays the same information. *See id.* at 1247.

Here, DDL has alleged numerous similarities in the overall look of the menu screens and the information that they display. For example, each robot has a discrete menu screen to display the robot's physical position (Figure 1) and information for the robot's touch sensor (Figure 2):





Figure 1 (EMO at left, VECTOR at right)



Figure 2 (EMO at left, VECTOR at right)

ECF No. 22 ¶ 50. Similarly, each robot has a menu screen that uses a similar “directional spray graphic” to depict where sound is coming from relative to the robot (Figure 3):



Figure 3 (EMO at left, VECTOR at right)

*Id.* Although the Court acknowledges that there are differences between the screens, that is not dispositive given that a finding of substantial similarity may be based upon a comparison of discrete facets of a work, not the work in its entirety. *See Whelan*, 797 F.3d at 1245; *Dun & Bradstreet Software Servs., Inc. v. Grace Consulting, Inc.*, 307 F.3d 197, 214 (3d Cir. 2002). The Court thus concludes that the differences between the menu screens are not so dramatic that “no trier of fact could rationally determine [the underlying source code] to be substantially similar.” *Tanksley*, 902 F.3d at 171–72.



Turning to Living.AI’s third and final argument—that the similarities between the menu displays cannot establish substantial similarity because they are not protectable by copyright—the Court concludes that the argument is misplaced. The legal premise of Living.AI’s argument is the rule that an infringement claim is valid only where “there is ‘substantial’ similarity between the alleged infringing work and protectible elements of the original work.” ECF No. 24 at 8 (emphasis omitted) (quoting *Dam Things from Den. v. Russ Berrie & Co.*, 290 F.3d 548, 562 (3d Cir. 2002)). That rule, however, concerns direct evidence of substantial similarity; namely, a direct comparison of two infringing works by the finder of fact. *See Dam Things from Den.*, 290 F.3d at 562. Screen outputs, by contrast, are merely *indirect* evidence of substantial similarity due to their causal connection with the computer program that generates the screens. *Whelan*, 797 F.2d at 1244. There is therefore a mismatch between the rule invoked by Living.AI and the application that Living.AI attempts. Underscoring that mismatch is the fact that a screen output is not an “element” of the computer program that produces it—it is an entirely separate work under copyright law. As the Third Circuit explained in *Whelan*, “screen outputs are considered audio-visual works under the copyright code, and are thus covered by a different copyright than are programs, which are literary works.” *Id.* (internal citations omitted). In sum, the rule relied on by Living.AI does speak to the circumstances under which a screen output may be used to show substantial similarity in the underlying code.

*Whelan*, the leading case in this circuit on substantial similarity in computer programs, suggests that the use of screen outputs to demonstrate substantial similarity in the underlying code is not so limited as Living.AI suggests. In concluding that screen outputs could be used as evidence of substantial similarity in the computer programs that generated them, the court never considered whether the screen outputs themselves would be subject to copyright protection. *See id.* at 1244—

45. That omission is noteworthy given that the court expressly recognized that the plaintiff claimed no copyright protection for its screen outputs as audiovisual works. *Id.* at 1244. Instead, the court grounded its reasoning in considerations of relevance. *See id.* (“Thus, the question is whether the screen outputs have probative value concerning the nature of the programs that render them sufficient to clear the hurdles of Fed.R.Evid. 401 and 403.”). Acknowledging that screen outputs are by no means dispositive (because different computer programs and code configurations can produce the same audiovisual depiction), the court nevertheless concluded that there was probative value in screen outputs such that it was appropriate to rely on evidence of screen output similarity to prove substantial similarity in the underlying code. *See id.* at 1244–45. *Whelan* therefore does not require courts to ask whether the screen outputs would themselves be copyrightable as audiovisual works before they could be used to demonstrate substantial similarity in the underlying code.

Accordingly, this Court concludes that the similarities between VECTOR’s and EMO’s menu screens make it plausible that the underlying source code is substantially similar and will deny Living.AI’s motion to dismiss. That conclusion does not, as Living.AI suggests, allow DDL to “claim exclusive rights to the idea or concept of a menu screen that happens to have elements that are expected of a menu screen for such a robot figure.” ECF No. 24 at 10. DDL, recognizing that “copyright does not protect ideas, but only expressions of ideas,” *Whelan*, 797 F.2d at 1234, does not seek exclusive rights to the *idea* of a menu screen for desktop robots. ECF No. 25 at 12–19. Instead, it seeks protection only for its allegedly original *expression* of that idea in VECTOR’s source code. *See id.*

**IV. Conclusion**

For the reasons set forth above, Living.AI's Motion to Dismiss DDL's First Amended Complaint is DENIED as set forth in the accompanying order.

DATED this 6th day of January, 2023.

BY THE COURT:

/s/ Christy Criswell Wiegand  
CHRISTY CRISWELL WIEGAND  
United States District Judge

cc (via ECF email notification):

All Counsel of Record